

Title (en)  
NANOSCALE WATER-BASED NARROW-MOLECULAR-WEIGHT DISTRIBUTION ACRYLIC COPOLYESTER AND PREPARATION THEREFOR

Title (de)  
NANOSKALIGES WASSERBASIERTES ACRYL-COPOLYESTER MIT ENGER MOLEKULARGEWICHTSVERTEILUNG UND HERSTELLUNG DAVON

Title (fr)  
COPOLYESTER ACRYLIQUE À DISTRIBUTION ÉTROITE DE POIDS MOLÉCULAIRES À BASE D'EAU NANOMÉTRIQUE ET SA PRÉPARATION

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Application  
**EP 19793477 A 20190305**

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Abstract (en)  
[origin: EP3670549A1] This invention discloses a nanoscale, water-based, narrow molecular weight distribution copolyacrylate synthesized from materials including methyl methacrylate, methacrylic acid and butyl acrylate as base monomers. The nanoscale, water-based, narrow molecular weight distribution copolyacrylate is prepared by polymerization of the base monomers under the action of an emulsifier and an initiator in a purely water-based system. The nanoscale, water-based, narrow molecular weight distribution copolyacrylate has a D50 particle size of 40-65 nm and a polydispersity index (PDI) (Mw/Mn) of <1.05. Also provided is a method of preparing such a copolyacrylate. The nanoscale, water-based, narrow molecular weight distribution copolyacrylate of the invention employs water as the sole dispersion medium, can be polymerized and stably present in a purely water-based system and features a nanoscale size and a narrow, uniform distribution. It also features a low viscosity and high solid content. Additionally, it is not water-absorbent, free of after-tack and highly water-resistant. Further, it allows functional modifications.

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